



# EFFICACY OF COMMUNICATION BOARD ON COMMUNICATION OF VERBALLY NON-COMMUNICATIVE PATIENTS AT SELECTED HOSPITAL IN MANGALORE

Odette Rodrigues<sup>1</sup> | Dr. Raja . A<sup>2</sup>

<sup>1</sup> Principal, Unity Academy of Education, Mangalore- 575007.

## ABSTRACT

**Background of the study:** By nature, humans are social and their needs are fulfilled in collaboration with other human beings through communication. The ability to communicate effectively is basic for human functioning and well being. Communication is the foundation of society. It is an integral and fundamental aspect of our social system and an accepted part of our daily life. Lack of effective communication stresses an individual and therefore, it is of vital importance that all human beings are ensured adequate means for communication especially when they are plagued by illness. **Aim:** The main aim of this study was to assess the efficacy of communication board on communication of verbally non- communicative patients at selected hospital Mangalore. **Objectives of the study were to:** 1. assess pre-test and post-test communication of verbally non-communicative patients. 2. determine the effectiveness of communication board on communication among verbally non-communicative patients. 3. find association between pre-test level of communication and selected demographic variables of verbally non-communicative patients. **Method:** A quantitative research approach with non equivalent control group pre-test posttest design (quasi experimental) was adopted for the study. The conceptual framework of this study was based on Orem's Self Care Deficit Theory (1971) developed by Dorothea Orem. 40 verbally non- communicative patients were selected by non-probability purposive sampling technique (twenty patients in the experimental group and twenty patients in the control group). Communication board was administered to the experimental group. Data were collected using demographic proforma, semi structured questionnaire on assessment of communicative needs and non-verbal communication index (rating scale on verbally non-communicative communication pattern). **Results:** The data were analyzed using descriptive and inferential statistics. The data concerning the efficacy of the communication board was established by analyzing the pre- test and post-test communication scores of the verbally non- communicative patients. In order to find out the efficacy of the communication board within groups, on communication of verbally non-communicative patients, paired 't' test was computed. In the experimental group, the computed 't' values of communication scores were significant for all components ( $p < 0.01$ ). In the control group, the computed 't' values were significant only for the general and physiological domains of communication ( $p < 0.01$ ). Independent 't' test was used for comparing the post-test communication scores between the experimental and control group. The value of the independent 't' test for overall communication (27.38) was significant ( $p < 0.01$ ). This represented that the communication board was effective in improving the communication of verbally non-communicative patients in experimental group than control group. Chi-square test was used to test the significant association between pre-test levels of communication and selected demographic variables. The test revealed that there was no significant association between the pre-test communication and selected demographic variables namely, age, gender, education and previous history of hospitalization of verbally non- communicative patients. Interpretation and conclusion The study concluded that the communication board significantly improved the communication of verbally non- communicative patients.

**KEYWORDS:** Efficacy, communication board, communication, verbally non-communicative, patients.

## INTRODUCTION:

Human beings are the greatest of God's creations. The ability to communicate is the primary factor that distinguishes human beings from animals. The ability to communicate effectively is basic for human functioning and well being. Communication is the foundation of society. It is an integral and fundamental aspect of our social system and an accepted part of our daily life. When an individual is removed from normal surroundings and contacts, effective communication becomes paramount as a means of re-establishing social contact as well as for receiving and giving information. Lack of effective communication stresses an individual and therefore, it is of vital importance that all human beings are ensured adequate means for communication especially when they are plagued by illness.<sup>1</sup>

Communication problems caused by intubation and cognitive, sensory or language deficits distance the patients from care givers and loved ones. Mechanical ventilation and use of paralytic and sedative agents impair communication between patients and others. Physical restraints used to prevent disruption of medical devices further limit patients' ability to gesture or use alternative communication techniques.<sup>2</sup>

Communication disorders are estimated to affect 5%–10% of the general population, and in a study more than 15% of admissions to university hospitals involved patients with 1 or more disabilities severe enough to prevent almost any form of communication. In addition, patients with communication disabilities were already at increased risk for depression and other co-morbidities.<sup>3</sup> Nearly 40% of seriously ill patients who die in hospitals, spend their last days and hours in medical intensive care, receiving mechanical ventilation. Many patients die in pain without the ability to fully express their needs, wishes about end-of-life care, or final messages to loved ones.<sup>4</sup>

## NEED FOR THE STUDY:

A verbally non communicative patient, experiences various problems such as, loss of self expression, decreased self esteem, loss of societal status and loss of employment. In the medical field, the problem of effective communication is heightened mainly in the Intensive Care Units, as such patients are critically ill and tend to have barriers in communication such as, endotracheal intubation, tracheostomies or other muscular weaknesses that either result in preventing speech or making communication difficult or impossible.<sup>1</sup>

Recent studies have investigated the patient's perception and recollection of the communication that transpired between them and nurses while they were cared for within an ICU. The literature indicates that nurses communicate extremely poorly with patients, despite a high level of knowledge and skill with respect to communication. Tentative explanations of high stress levels, a preoccupation with physical care and technology may be reasons for this. The need for further research into and attempts to alleviate this problem is clearly demonstrated.<sup>5</sup>

On the other hand, the investigators also experienced the difficulty and frustration of trying to understand and interpret such patients' needs and on many occasions had failed to do so. Relatives of verbally non communicative patients had also shared their feelings of despair when they were unable to understand what their loved ones were attempting to express. In light of this problem, the investigator felt the need to use a communication board, to enhance effective communication among such verbally non-communicative patients.

## HYPOTHESES:

All hypotheses are tested at 0.05 level of significance

**H1:** There will be a significant difference between pre-test and post-test communication scores of verbally non-communicative patients.

**H2:** The mean post-test communication score will be significantly higher among patients who use the communication board than those who do not use the board.

**H3:** There will be a significant association between pre-test levels of communication and selected demographic variables of verbally non-communicative patients.

## DISCUSSION:

### Section 1: Comparison of pre-test communication scores in both experimental and control groups:

Independent 't' test was used for computing the comparison of pre-test communication scores in both experimental and control groups. The study showed that the mean pre-test communication scores in the experimental group (32) was higher than (30.2) of the control group. The computed value 1.63 was not significant. Therefore, in pre-test, both the groups were homogenous in nature.

## Section 2: Comparison of pre-test and post-test communication scores within experimental and control group:

Paired 't' test was used to compare the pre-test and post-test communication scores within experimental and control groups. In the experimental group, the computed 't' values of all domains of communication as well as the total communication score value 31.007 was significant at 0.01 level. This showed that the communication board was effective in improving communication of verbally non-communicative patients in all the domains as well as the overall communication. With regard to the control group, the calculated 't' values for the total communication score and all the domains were not significant except for the general and physiological domains. This showed that the communication methods used by the verbally non-communicative patients in the control group were not effective. The communication board used in the study could have improved communication due to the fact that colourful pictorial representations were used to denote communication needs and literacy was not required to understand the pictures denoted.

The study findings were supported by a study done to determine the effectiveness of communication board for intubated patients which showed that 't' value of 72.22 was highly significant at  $p < 0.001$  level. Majority of the clients 192 (96%) in experimental group were able to meet their needs using the communication board.<sup>6</sup>

## Section 3: Comparison of post-test communication scores of experimental and control group:

Independent 't' test was computed for comparing the post-test communication scores of both, experimental and control group. The present study findings showed that, the mean post-test communication scores of the experimental group (57) were higher than in the control group (31.75). The computed 't' value of 1.731 was significant ( $p < 0.01$ ). This showed that the communication board was effective in improving the communication of verbally non-communicative patients and was probably due to the fact that the needs were clearly denoted as colourful pictorial representations, was available at the bed side and could be easily understood and used by patients and their care givers. This present study findings were supported by the following two studies: The first one was conducted on 'Communicating with mechanically ventilated patients' which showed that patients in the experimental group demonstrated significantly increased satisfaction with communication by using the communication board as compared with the control group.<sup>7</sup>

Another study showed that, 51% of patients preferred the EZ communication board as the best method compared to other communication aids and basic methods and 58% of the nurses reported that the communication board was the most beneficial method of communication.<sup>8</sup>

## Section 4: Association of pre- test levels of communication with selected demographic variables:

Chi-square test was computed to find out the significant association between the pre-test levels of communication and selected demographic variables such as, age, gender, education and previous hospitalization of verbally non-communicative patients. The calculated Chi-square value showed that none of the demographic variables were associated with communication of verbally non-communicative patients. This was probably due to the fact that irrespective of age, gender, education and previous hospitalization, the method of communication of patients was similar.

**Table 1: Frequency and Percentage distribution of samples according to the sample characteristics of experimental group and control group.**

$n=20+20$

Variable	Experimental group		Control group	
	f	%	f	%
1. Age (in years)				
a) 18-40	0	0%	0	0%
b) 41-60	12	60%	12	60%
c) 61-80	8	40%	8	40%
d) < 80	0	0%	0	0%
2. Gender				
a) Male	7	35%	9	45%
b) Female	13	65%	11	55%
3. Education				
a) No formal training	19	95%	20	100%
b) Primary education	1	5%	0	0%
c) Secondary education	0	0%	0	0%
d) Higher secondary	0	0%	0	0%
e) Graduate and above	0	0%	0	0%

Variable	Experimental group		Control group	
	f	%	f	%
4. Occupation				
a) Health professionals	20	100%	20	100%
b) Non-health professionals	0	0%	0	0%
5. Area of residence				
a) Urban	20	100%	20	100%
b) Rural	0	0%	0	0%
6. Previous history of hospitalization				
a) Yes	13	65%	20	100%
b) No	7	35%	0	0%
7. Area of admission				
a) ICU	0	0%	0	0%
b) Ward	20	100%	20	100%
8. Duration of verbal communication deficit				
a) < 30 days	20	100%	20	100%
b) 1 month- 1 year	0	0%	0	100%
c) >1 year	0	0%	0	0%
9. Duration of hospital stay				
a) <1 month	20	100%	20	100%
b) 1 month-6months	0	0%	0	0%
c) >6months	0	0%	0	0%

**Table 2: Comparison of mean pre-test communication scores between experimental and control groups.**

Groups	Mean	Mean Difference	S.D	df	't' value
Experimental	32	1.6	2.865	38	1.63 (NS)
Control	30.4		2.980		

$t_{38} = 1.96; p < 0.05$ ; ( $t_{38} = 2.58; p < 0.01$ ); NS- Not Significant

**Table 3: Comparison of mean pre-test and post-test communication score in experimental group**

$n=20$

Domains	Mean		Mean Difference	SD		SD Difference	df	't' value
	pre	post		pre	post			
General	9.25	15	5.75	1.25	1.02	0.23	19	18.74**
Physiological	8.15	11.45	3.30	1.49	0.94	0.55		8.58**
psychological	2.05	6.15	4.10	0.22	0.59	0.36		28.61**
Spiritual	1.05	3.70	2.65	0.22	0.47	0.35		20.18**
Comfort	5.35	10.00	4.65	0.81	1.45	0.64		12.05**
Communication	5.05	7.95	2.9	0.88	0.22	0.66		14.22**
Safety	1.10	3.25	2.15	0.30	0.64	0.34		12.90**
Over All	32	57.5	25.5	2.95	2.87	0.08		31.07**

( $t_{19} = 2.54; p < 0.01$ ); \*\*Significant at 0.01 level

**Table 4: Comparison of mean pre-test and post-test communication score in control group**

$n=20$

Domains	Mean		Mean Difference	SD		SD Difference	df	't' value
	pre	post		pre	post			
General	9.35	10.1	0.75	1.38	1.48	0.10	19	3.94*
Physiological	6.60	6.90	0.30	1.14	0.96	0.18		2.35*
psychological	2.20	2.30	0.10	0.41	0.47	0.06		1.45
Spiritual	1.15	1.25	0.10	0.36	0.44	0.08		1.45
Comfort	5.40	5.50	0.10	0.68	0.76	0.08		1.00
Communication	4.60	4.70	0.10	0.75	0.80	0.05		1.00
Safety	1.10	1.20	0.10	0.30	0.41	0.11		1.45
Over All	30.40	30.95	0.55	2.98	3.03	0.05		1.93

( $t_{19} = 2.09; p < 0.05$ ); ( $t_{19} = 2.54; p < 0.01$ );

\*Significant at 0.05 level; \*\*Significant at 0.01 level

**Table 5: Comparison of post-test communication scores of experimental and control groups.** $n=20+20=40$ 

Domains	Mean		Mean Difference	SD		SD Difference	df	't' value
	Exp	cont		Exp	cont			
General	15	10.10	4.90	1.02	1.48	0.46	38	12.15**
Physiological	11.45	6.90	4.55	0.94	0.96	0.02		15.04**
psychological	6.15	2.30	3.85	0.58	0.47	0.11		22.89**
Spiritual	3.70	1.25	2.45	0.47	0.44	0.33		16.93**
Comfort	10.0	5.50	4.50	1.45	0.76	0.69		12.28**
Communication	7.95	4.70	3.25	0.22	0.80	0.58		17.47**
Safety	3.25	1.20	2.05	0.63	0.41	0.22		12.07**
Over All	57.45	30.95	26.5	3.08	3.03	0.05		27.38**

**Table 7: Association between pre-test levels of communication and selected demographic variables in verbally non-communicative patients.** $n=40$ 

Demographic variables	Demographic variables			df	Chi Square value ( $\chi^2$ )
	<median	>median	total		
1. Age					
41-60	11	13	24	1	0.154
61-80	11	5	16		
2. Gender					
Male	10	6	16	1	0.436
Female	12	12	24		
3. Education					
No Formal Education	22	17	39	1	0.263
Primary Education	0	1	1		
4. Previous History of Hospitalization					
Yes	19	14	39	1	0.477
No	3	4	1		

 $(\chi^2=3.84; p<0.05); *$  median: 31**CONCLUSION:**

The communication board was effective in improving all the domains and overall communication of verbally non communicative patients.

**Nursing Implications:**

The findings of the study have implications for nursing practice, nursing education, nursing administration and nursing research.

**Nursing Practice:**

From this study it was clearly evident that nursing staff were able to deliver their services in more effective ways due to the use of communication board. The board can be used to promote effective communication between nurses and patients, thus leading to satisfaction of patients better. As this study is based on Orem's Self Care Deficit Theory (1971) it can be better applied in the practice of nursing, thus enhancing evidence based practice. In the community set up, community health nurses can utilize the board in home care situations of patients who are verbally non-communicative as it is light in weight, compact and cost effective in nature.

**Nursing Education:**

The development and use of communication boards can be incorporated into the nursing curriculum to enable future generation of nursing students to be competent in dealing with complex communication problems as faced by verbally non communicative patients. Furthermore, post graduate nursing students may embark on improving such communication boards for faster, better and easier communication. Other newer methods to promote better understanding of verbally non-communicative patients must be incorporated to better communication and reduce frustration of patients as well as care givers. The nursing curriculum should give importance to nursing interventions rather than medical managements with application of evidence based practices that are economical, affordable and acceptable for patients and their families. Communication must be incorporated as an important part of the nursing curriculum.

**Nursing Administration:**

With the emergence of nurse administrators, in-service education can be conducted to incorporate the use of communication boards. Standardization of com-

munication boards can be made among various institutions. Evidence based nursing practice on communication must be enforced to improve the use of communication boards in hospitals. The nurse administrator must work to ensure that students and staff are well equipped in the method of using a communication board in order to optimise its benefits to such clients who require it. In-service education for various methods of communication for verbally non- communicative patients can be conducted to promote good and easy communication. Nurse administrators can make available communication boards in all wards.

**Nursing Research:**

Nursing research should be encouraged on a larger scale, as nurses are the basic care givers and face various obstacles in delivering their services. It is therefore nurses, who can tackle these obstacles through intensive research methods and help the health care system to improve quality of patient care. As communication between the patient and care giver is the most basic entity in the delivery of care, research in this field is of utmost importance to bridge the gap between communication. The study design and methodology used in this study can be used for the literature review for further similar based studies.

**LIMITATIONS OF THE STUDY:**

The study findings could not be generalized because of the following reasons:

- The sample size was relatively small.
- The study did not use random sampling method or random allocation.

**RECOMMENDATIONS:**

Based upon the study findings, the following recommendations are made:

- The study may be replicated on a larger sample.
- A similar study can be conducted in different areas other than hospitals.
- A comparative study may be conducted between the literate and illiterate patients using pictorial communication board.
- A similar study can be conducted for a longer duration of time.

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